

Abstract

A method for forming an aluminum-containing interconnect is provided. The method includes providing a substrate with a contact region. A first barrier layer, an aluminum-containing conductive layer, and a second barrier layer are sequentially formed over the substrate, and then patterned to form an aluminum-containing interconnect. The aluminum-containing interconnect is electrically coupled to the contact region and has a sidewall exposed. A barrier spacer is formed on the sidewall of the aluminum-containing interconnect by using a material selected from a group consisting of titanium, titanium nitride, and the combination thereof.